

Abstract

To the surface of a base material, there is applied, a dispersion containing fine particles of at least one metal selected from the group consisting of indium, tin, antimony, aluminum and zinc, fine particles of at least one alloy consisting of at least two metals specified above or a mixture of these fine particles, the coated layer is then fired in a vacuum atmosphere, an inert gas atmosphere, a reducing atmosphere; and subsequently the layer is fired in an oxidizing atmosphere. After this firing step in an oxidizing atmosphere, the coated layer may further be fired in a reducing atmosphere.

The inert gas atmosphere is one comprising at least one inert gas selected from the group consisting of rare gases, carbon dioxide and nitrogen and the reducing atmosphere is one comprising at least one reducing gas selected from the group consisting of hydrogen, carbon monoxide and lower alcohols. A transparent electrode is composed of a transparent conductive film prepared according to the foregoing method. The present invention thus permits the formation of a transparent conductive film having a low resistance and a high transmittance while making use of a low temperature firing step.